UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,905	10/22/2003	Jeffrey C. Tang	200304375-2	6559

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HEWLETT-PACKARD COMPANY	KING, JUSTIN
Intellectual Property Administration	

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2111	

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P. O. Box 272400
Fort Collins, CO 80527-2400

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		10/690,905	TANG ET AL.
		Examiner	Art Unit
		Justin I. King	2111

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 October 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,17-19 and 22-26* is/are rejected.

7)☒ Claim(s) *16,20 and 21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>10/22/03</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Double Patenting

1.   Claims 1-13, 15-23, and 25-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,665,765. Although the conflicting claims are not identical, they are not patentably distinct from each other.

Referring to claim 1: The 765 Patent's claim 1 discloses a CPU, secondary bridge, and control logic. The secondary bridge is equivalent to the currently claimed bridge logic. The 765 patent discloses hot docking capability (lines 53-58) and the connecting signals of the PRATTACHED# and WEDGED#. The PRATTACHED# and WEDGED# are the claimed detection input signals. Although the Patent 765 does not claim a system memory and a peripheral bus, both the system memory and peripheral bus are common components in any computer system, such as the system RAM and PCI bus.

Referring to claims 2, 4-6: The system management interrupt is part of the computer system to control and manage any system events. Since docking and undocking are the events that physical devices may be added or removed from the system, the computer will activate any necessary system management protocol to accommodate these events. The Patent 765 claim 1's lines 46-52 discloses the system management routine executed by the CPU.

Referring to claim 3: The Patent 765's claim 2 discloses the power switch.

Referring to claim 7: Although the Patent 765 does not claim any storage device and IDE bus, the admitted prior art disclose that a floppy drive is a common device on the a docking station (Specification, page 2, line 19). The floppy drive is an IDE storage device.

Referring to claims 8-9: The Patent 765 discloses the control signals for both port replicator and drive wedge (claim 1).

Referring to claims 10-11: The Patent 765 discloses the low and high states for connection status (claim 1).

Referring to claim 12: The Patent 765 discloses a sequence of events executed by the CPU in responding to the docking or undocking events (claim 1, lines 34-52).

Referring to claim 13: The Patent 765 discloses the same limitations in claim 1.

Referring to claim 15: Every laptop has a keyboard; thus, every laptop has a keyboard controller.

Referring to claim 16: The Patent 765 discloses the limitation as the last limitation of its claim 1.

Referring to claim 17: The Patent 765's claim 2 discloses these limitations.

Referring to claim 18: The Patent 765's claim 2 discloses a second expansion device.

Referring to claim 19: The Patent 765's claim 2 discloses the transition detection (column 12, lines 1-3).

Referring to claims 20-21: The Patent 765's claim 2 discloses these limitations on column 12, lines 5-12.

Referring to claim 22: The Patent 765 claim 1 discloses the limitation except the display. A monitor is a standard component in every portable computer, and the monitor is the display.

Referring to claim 23: The Patent 765 claim 1 discloses the logical high and low signal

for representing the docking status and pull-up resistors (line 41).

Referring to claim 25: The Patent 765's claim 2 discloses enabling the data bus (column

11, lines 15-16).

Referring to claim 26: The Patent 765's claim 1 discloses initiating a SMI (lines 46-52).

Claim Objections

2.   Claim 8 is objected to because of the following informalities: Claim 8 recites "at least

one storage device said computer system further" in line 2. Applicant may have missed

punctuation in the sentence. Appropriate correction is required.

3.   Claim 16 is objected to because of the following informalities: Claim 16 recites "**to** the

PRATTACHED# input signal **to** the control logic" in lines 5-6. Applicant may have meant

"from" instead "to" for the second occurrence of "to". Appropriate correction or clarification is

required.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5.   Claims 14, 16 and 25-26 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claim 14 recites the limitation "the WEDGED# input signal" in line 2. There is

insufficient antecedent basis for this limitation in the claim.

Claim 16 recites the limitation "the system bus" and "said system bus" in lines 2 and 5.

There is insufficient antecedent basis for this limitation in the claim.

Claim 25 recites the limitation "said expansion bus" in line 2. There is insufficient

antecedent basis for this limitation in the claim. Claim 26 is rejected because it incorporates

claim 25's limitations.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this
> or a foreign country, before the invention thereof by the applicant for a patent.

7.   Claims 17 and 22 are rejected under 35 U.S.C. 102(a) as being anticipated by Verdun et

al. (U.S. Patent No. 6,493,782).

Referring to claim 17: Verdun discloses connecting a first expansion device to said

computer (figure 3, step 210), switching on power to said expansion device (figure 3, step 270);

detect a transition of a signal from said expansion device indicating that the expansion device has

been connected to said computer (figure 3, step 280). Since Verdun discloses configuring

devices on the docking station (figure 3, step 290), Verdun discloses that the bus connecting to

the docking station is enabled in order to communicate with the devices on docking station.

Hence, claim is anticipated by Verdun.

Referring to claim 22: Verdun discloses a CPU (figure 1, structure 17), a display (figure

1, structure 15, the enclosed monitor), and a means for hot docking (abstract, figure 3). Hence,

claim is anticipated by Verdun.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

9.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

10.   Claim 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the

combination of Klein (U.S. Patent No. 6,035,354) and Verdun.

Referring to claim 1: Klein discloses a CPU (figure 2, structure 56), a system memory

(figure 2, structure 62), a bridge logic (figure 2, structure 70), and a control logic (figure 2,

structure 78). Klein discloses a peripheral bus (figure 2, structure 72) coupled to the bridge logic

and an interface connector (figure 2, connecting means between structures 72 and 84). Klein

discloses an expansion device (figure 2, structure 54). Klein discloses that the control logic

receiving docking station input signal (figure 2, column 4, lines 14-18). Klein does not explicitly

hot docking capability.

Verdun discloses a hot docking system (figure 3, abstract). Verdun teaches one to hot

dock a portable computer onto a docking station to reduce the system down time while adding

additional peripheral devices via the docking station. Hence, it would have been obvious to one

having ordinary skill in the computer art to adopt Verdun's teaching onto Klein because Verdun

enables one to reduce the system down time while adding additional devices by hot docking the

computer onto the docking station.

Referring to claim 2: The system management interrupt (SMI) is part of the computer

system to control and manage any system events. Since docking and undocking are the events

that physical devices may be added or removed from the system, the computer will activate any

necessary system management protocol to accommodate these events. Klein discloses that the

control logic initiates a SMI to the CPU (figure 2).

Referring to claim 3: Klein discloses that the expansion device detection input signal

changes the state upon the connection (column 4, lines 14-18). Verdun discloses powering up

the expansion device (figure 3, step 270).

Referring to claim 4: The system management interrupt (SMI) is part of the computer

system to control and manage any system events. Since docking and undocking are the events

that physical devices may be added or removed from the system, the computer will activate any

necessary system management protocol to accommodate these events. Klein discloses that the

control logic initiates a SMI to the CPU (figure 2).

11.   Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the
combination of Klein, Verdun, and Stufflebeam (U.S. Patent No. 6,460,106).

Referring to claim 5: Klein and Verdun's disclosures are stated above; neither discloses a
data bus, which is only enabled when the computer is docked on the docking station.
Stufflebeam discloses a prior art with a data bus, which is only enabled when the computer is
docked (figure 1). Stufflebeam teaches a dedicated and isolated data bus for docking purpose,
which can reduce the effect on the system voltage fluctuation caused by the hot docking event.
Hence, it would have been obvious to one having ordinary skill in the computer art to adopt
Stufflebeam's teaching onto Klein and Verdun because Stufflebeam teaches a dedicated data bus
for docking purpose, which can isolate the docking event to the dedicated bus and to reduce
effect on the system voltage fluctuation caused by any hot docking event.

Referring to claim 6: Klein discloses a system management signal (figure 2, SMI).

Referring to claim 7: Klein discloses that a docking station can be equipped with a CD
ROM drive (column 1, lines 24-39), which is a IDE storage device.

12.   Claims 8-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the
combination of Klein, Hennessy et al. (U.S. Patent No. 6,195,718) and Verdun.

Referring to claim 8: Klein and Verdun's disclosures are stated above in the claim 1's
rejection, Klein's expansion device is a drive wedge including peripheral devices (figure 2,
structure 86 and 88); but neither Klein nor Verdun discloses a second expansion device.
Hennessy discloses a multiple docking system (figure 3). Hennessy teaches increase the docking
device's portability and functionality by stacking up additional docking stations. Hennessy's

second docking station is equivalent to the claimed second expansion device, the port replicator.

Hence, it would have been obvious to one having ordinary skill in the computer art to adopt

Hennessy's teaching onto Klein and Verdun because Hennessy teaches one to further increase

the docking device's portability and functionality by stacking up additional docking stations.

Referring to claim 9: Hennessy discloses input signals (figure 3, structures 218 and 239)

for each docking device.

Referring to claims 10-11: Klein discloses a logic high state for undocked and a logic low

state for docked (column 4, lines 14-18).

Referring to claim 12: The system management interrupt (SMI) is part of the computer

system to control and manage any system events. Since docking and undocking are the events

that physical devices may be added or removed from the system, the computer will activate any

necessary system management protocol to accommodate these events. Klein discloses that the

control logic initiates a SMI to the CPU (figure 2).

Referring to claim 13: Klein discloses a CPU (figure 2, structure 56), a host bridge

(figure 2, structure 64), a secondary bridge (figure 2, structure 70), and a control logic (figure 2,

structure 78). Klein discloses that the control logic receives the docking station input signal

(figure 2, column 4, lines 14-18); the docking input signal is equivalent to either WEDGED#

signal or PRATTACHED# signal. Klein discloses a resistor (figure 2, structure 82). Klein

discloses code executed by the CPU (figure 2, SMI). Klein does not explicitly hot docking

capability and a second expansion device.

Verdun discloses a hot docking system (figure 3, abstract). Verdun teaches one to dock a portable computer onto a docking station while the computer is powered on and fully operational.

Verdun teaches one to reduce the system down time while adding additional functionalities by attaching additional peripheral devices via the docking station by hot docking the computer onto the docking station. Hennessy discloses a multiple docking system (figure 3). Hennessy teaches to expand the docking station's portability and functionality by multiple docking station architecture. Hence, it would have been obvious to one having ordinary skill in the computer art to adopt Verdun and Hennessy's teaching onto Klein because Hennessy teaches one to further expand an existing docking system's functionality and portability with the stack-up docking architecture and Verdun enables one to reduce the system down time while adding additional functionalities by attaching additional peripheral devices via the docking station by hot docking the computer onto the docking station.

Referring to claim 14: Klein discloses that expansion device detection input signal changes the state upon the connection (column 4, lines 14-18). Verdun discloses powering up the expansion device (figure 3, step 270).

Referring to claim 15: Each portable computer has a keyboard, thus, it includes a keyboard controller.

13.   Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Verdun and Hennessy.

Referring to claim 18: Verdun's disclosure is stated above, Verdun does not disclose the second expansion device. Hennessy discloses a multiple docking system (figure 3). Hennessy teaches to expand the docking station's portability and functionality by multiple docking station architecture. Hence, it would have been obvious to one having ordinary skill in the computer art to adopt Hennessy's teaching onto Verdun because Hennessy teaches one to further expand an existing docking system's functionality and portability with the stack-up docking architecture.

Referring to claim 19: Hennessy discloses a transition of a signal for the second expansion device's connection (figure 3, structure 239).

14.   Claims 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Verdun and Klein.

Referring to claim 23: Verdun's disclosure is stated in the claim 22's rejection above, Verdun does not explicitly disclose a pull-up resistor. Klein discloses a docking system with a pull-up resistor. Klein teaches a way to simplify the detection of the docking status by sensing the voltage changes. Klein's docking detecting circuitry (figure 2, structure 78) is the control logic. Hence, it would have been obvious to one having ordinary skill in the computer art to adopt Klein's teaching onto Verdun because Klein teaches one how to detect the docking physical connect by sensing the voltage fluctuation.

Referring to claim 24: Verdun discloses powering on the expansion device when the physical connection is completed (figure 3, steps 260 and 270).

Referring to claim 25: Since Verdun discloses configuring devices on the docking station

(figure 3, step 290), Verdun discloses that the bus connecting to the docking station is enabled in

order to communicate with the devices on docking station.

Referring to claim 26: The system management interrupt (SMI) is part of the computer

system to control and manage any system events. Since docking and undocking are the events

that physical devices may be added or removed from the system, the computer will activate any

necessary system management protocol to accommodate these events. Klein discloses that the

control logic initiates a SMI to the CPU (figure 2).

Allowable Subject Matter

15.   Claims 16 and 20-21 are objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

Referring to claim 16: The prior arts on record do not explicitly disclose or teach a

computer system, which hot docks a computer simultaneously to a first expansion device and a

second expansion device, and the computer includes a configurable digital portion of a network

interface card and the second expansion device includes an analog portion of the network

interface card. The computer includes an initialization device select input pin that permits the

digital portion to be configured, and the computer further includes an AND gate whose output

signal couples to the initialization device select input pin and having an input pin that couples to

an address line of the system bus, and another input pin coupling to the PRATTACHED# input

signal to the control logic. In order to configure the digital portion, the address line must be asserted and the PRATTACHED# must be low indicating a docking status.

Referring to claim 20: The prior arts on record do not explicitly disclose or teach a method of hot docking a computer simultaneously to a first expansion device and a second expansion device, and the computer includes a configurable digital portion of a network interface card and the second expansion device includes an analog portion of the network interface card. The computer includes masking a configuration select input signal to said digital portion, which disables the digital portion from responding to a configuration request when the second expansion device is not connected to the computer.

Referring to claim 21: Claim is allowable because it incorporates the parent claim's allowable subject matter.
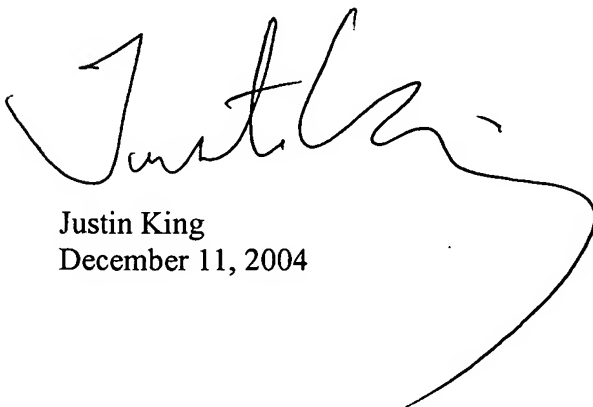
Conclusion

16.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin I. King whose telephone number is 571-272-3628. The examiner can normally be reached on Monday through Friday, 9:00 am to 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 571-272-3632 or on the central telephone number, (571) 272-2100. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications
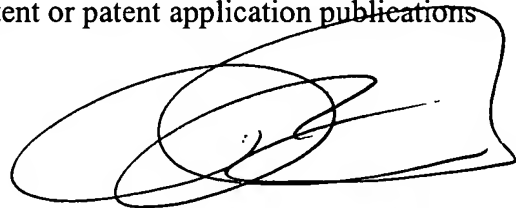
may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lastly, paper copies of cited U.S. patents and U.S. patent application publications will

cease to be mailed to applicants with Office actions as of June 2004. Paper copies of foreign

patents and non-patent literature will continue to be included with office actions. These cited

U.S. patents and patent application publications are available for download via the Office's

PAIR. As an alternate source, all U.S. patents and patent application publications are available

on the USPTO web site (www.uspto.gov), from the Office of Public Records and from

commercial sources. Applicants are referred to the Electronic Business Center (EBC) at

http://www.uspto.gov/ebc/index.html or 1-866-217-9197 for information on this policy. Requests

to restart a period for response due to a missing U.S. patent or patent application publications

will not be granted.

Justin King
December 11, 2004

MARK H. RINEHART
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100